1. A method of manufacturing a liquid crystal display device, comprising:

filling the space between two facing substrates with a mixture of pre-polymer and liquid crystal material;

applying an external source of energy to initiate a polymerization, wherein as the polymerization proceeds a phase separation of the polymer and liquid crystal is generally also proceeding;

after initiation of polymerization and before completion thereof, adjusting a parameter that affects one or both of the rates of polymerization and phase separation, so as to produce a variation in the polymerized structure, wherein the variation is a result of the rates of polymerization and phase separation being adjusted during the course of polymerization.

2. The method of claim 1 wherein at least a first and second layer is formed within the liquid crystal display device, wherein the structure of the first and second layers is different as a result of the rates of polymerization and phase separation being different during the time that the layers are formed.

3. The method of claim 1 wherein the variation in the polymerized structure changes in a continuous fashion as a result of the rates of polymerization and phase separation being different during the time that the structure is formed.

4. The method of claim 1 wherein the rate of polymerization is adjusted.

5. The method of claim 4 wherein the intensity of a light source affecting the rate of polymerization is adjusted to adjust the rate of polymerization.

6. The method of claim 5 wherein the light source is ultraviolet light.

7. The method of claim 1 wherein the rate of phase separation is adjusted.

8. The method of claim 7 wherein a temperature is adjusted to adjust the rate of phase separation.

9. The method of claim 1 wherein the first layer is primarily polymer.

10. The method of claim 9 wherein the second layer is primarily a mixture of polymer and liquid crystal material.

11. The method of claim 10 further comprising a third layer, different in structure from the first and second layers as a result of the relative rate of polymerization and phase separation being different during the time that the layers are formed.

12. The method of claim 11 wherein the third layer is primarily liquid crystal material.

13. The method of claim 11 wherein the second layer contains droplets of liquid crystal material within surrounding polymer.

14. The method of claim 13 wherein the droplets of liquid crystal are in contact with a substrate.

15. The method of claim 1 wherein the pre-polymer and liquid crystal are of such a composition and the polymerization occurs under such conditions that the structure of the first and second layer can be determined by varying the miscibility of the pre-polymer and liquid crystal material.

16. The method of claim 1 wherein the pre-polymer and liquid crystal are of such a composition and the polymerization occurs under such conditions that the structure of the first and second layer can be determined by varying the viscosity of the pre-polymer and liquid crystal.

17. The method of claim 16 wherein the viscosity is the relative viscosity of the pre-polymer and liquid crystal.

18. The method of claim 17 wherein the viscosity is the absolute viscosity of the pre-polymer and liquid crystal.